

# Avery Dennison® V8000 VisiFlex™ Reflective

Permanent StaFlat or Easy Apply RS

Revision: 1    Dated: 04/28/21

## Uses:

Avery Dennison® VisiFlex™ V-8000 Series High Visibility Reflective Film is engineered to improve the day and nighttime visibility of emergency response, utility, and construction fleets. Highly reflective vehicle markings can improve detection and recognition, giving drivers more time to react safely and avoid a collision. VisiFlex V-8000 Series offers durable, vibrant daytime colors. At night, its bold, high-quality microprismatic retroreflective elements efficiently return light at a wide range of angles. Meets the requirements for NFPA 1901. Digitally printed graphics should be overlaminated with DOL1060z or DOL1360z vinyl overlaminated or clear coated with an approved UV or solvent clear coat..



**Face:** Vinyl Retroreflective Film with Microprisms



**Adhesive:** Permanent Pressure Sensitive



**Liner:** 90# Staflat

## Application Surfaces:

Metal & Painted Metal; Flat, Simple Curves\*  
\*does not include rivets

## Features:

- Single layer construction that does not require edge sealing
- Unique omnidirectional prisms create high uniform brightness at night
- Easy to handle and apply, conforms to simple curves
- Digitally Printable (white only)
- Withstands normal vehicle maintenance including pressure washing

## Conversion:

- |                        |                            |                 |
|------------------------|----------------------------|-----------------|
| • Thermal Die Cut      | • Steel Rule Die-Cutting   | • Latex Inkjet* |
| • Flatbed Sign-Cut     | • UV inkjet*               | • Screen Print  |
| • Drum Roller Sign-Cut | • Mild/Eco Solvent inkjet* |                 |

\* V8000 White only.

## Common Applications:

- |                      |                    |         |
|----------------------|--------------------|---------|
| • Emergency Vehicles | • Utility Vehicles | • Fleet |
|----------------------|--------------------|---------|

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## Physical Characteristics:

Property	Measurement	Typical Value				
Caliper, face		21-26 mil (533-600 μm)				
Caliper, adhesive		1.4 mil (36 μm)				
Dimensional stability		<0.125" (3 mm) Note: Ink loads in excess of 250% may cause increased shrinkage and/or increased initial adhesion of the printed film				
Tensile at Yield						
Elongation						
Gloss	Hunter Gloss @ 60 degrees					
Adhesion SS:	<b>Painted Aluminum</b> 15 min  <b>Stainless Steel</b> 15 min	2.7 lbs.f/in (470 N/m)  1.5 lbs/in (270 N/m)				
Flammability	FMVSS302	Self Extinguishing				
Shelf-Life		1 year from the date of purchase (when stored at the following temperatures and humidity conditions 68°-77° F (20° - 25° C) and 50±5% R. H.)				
Durability	Vertical Exposure	Unprinted – Up to 7 years Printed – Up to 5 years				
Min. Application Temperature		60° F (16° C)				
Service Temperature		-10°F to +150°F (-23°C to + 65°C) (Reasonable range of temperatures which would be expected under normal environmental conditions).				
Chemical resistance		Resistant to most mild acids, alkalis, and salt solutions				
Optical Properties	Reflective Intensity	V-8000 meets the color and minimum luminance requirements for ASTM D4965 and HOSDB. Avery Dennison V-8000 typical retroreflectivity performance is comparable to the following specifications: <table><tr><td>ASTM Type IV</td><td>Global</td></tr><tr><td>NFPA 1901</td><td>North America</td></tr></table> America Avery Dennison suggests you obtain the current requirements from your local agency and ensure product conformance with such requirements. Your Avery Dennison Representative can assist you in this regard.	ASTM Type IV	Global	NFPA 1901	North America
ASTM Type IV	Global					
NFPA 1901	North America					
Compliance	California Proposition 65					

Data represents average values where applicable, and is not intended for specification purposes.

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### Warranty:

This Warranty applies to the Product listed in this Data Sheet. All statements, technical information (including physical and chemical characteristics) and recommendations about Avery Dennison products are based upon tests believed to be reliable but do not constitute a guarantee or warranty. All Avery Dennison products are sold subject to the Purchaser's assent and agreement that Purchaser is responsible for, and has independently determined, the suitability of such products for its purposes or its customer's purposes. Avery Dennison products are warranted to be free from defects in material and workmanship (i) for two years from the date of manufacture, or (ii) from the date of manufacture until the expiration of the period stated on the specific Product Data Sheet in effect at the time of delivery. Such time periods are subject in either case to the proper storing and application of said product, and the failure to properly store or apply the product, including without limitation the failure to follow any applicable Instructional Bulletin, negates any warranty. It is expressly agreed and understood that Avery Dennison's sole obligation and Purchaser's exclusive remedy under this warranty, under any other warranty, express or implied, or otherwise, shall be limited exclusively to: (a) repair or replacement of defective product without charge at Avery Dennison's plant or at the location of the product (at Avery Dennison's election), or (b) in the event repair or replacement are not commercially practical, a credit amount up to the price of the product taking into account the defect in the product in Avery Dennison's sole discretion.

THE WARRANTY EXPRESSLY SET FORTH ABOVE IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR USE AND/OR NON-INFRINGEMENT. SELLER SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER SUCH WARRANTIES. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING CONDITIONS SHALL BE VALID UNLESS MADE IN WRITING AND MANUALLY SIGNED BY AN OFFICER OF AVERY DENNISON.

AVERY DENNISON'S LIABILITY FOR DEFECTIVE PRODUCTS SHALL NOT EXCEED THE PURCHASE PRICE PAID THEREFORE BY PURCHASER AND IN NO EVENT SHALL AVERY DENNISON BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES WHETHER FORESEEABLE OR NOT, CAUSED BY DEFECTS IN SUCH PRODUCT, WHETHER SUCH DAMAGE OCCURS OR IS DISCOVERED BEFORE OR AFTER REPLACEMENT OR CREDIT, AND WHETHER OR NOT SUCH DAMAGE IS CAUSED BY AVERY DENNISON'S NEGLIGENCE.

All sales and contracts for sale of Products are subject to Purchaser's assent and agreement to this Warranty. Avery Dennison hereby objects to any terms or conditions contained in any purchase order or other communication of any kind from the Purchaser that is conflicting, inconsistent or additional to this Agreement.

### **⚠ WARNING**

**Failure to install the film in full compliance with Avery Dennison's installation instructions may result in personal injury or property damage. Read and follow all instructions when installing the film.**

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### Colors & Expected Durability

Vertical Durability for Zone 1 vertical applications is noted in the chart below. Color samples are available from [samples.graphics@averydennison.com](mailto:samples.graphics@averydennison.com), or through your sales or customer service contact. Reference Instructional Bulletin 1.30 for zones by geographic location.

**NOTE:** Some color fade may occur in severe environmental areas. Reference IB 1.30 for durability guidelines.

V-8000 Series Name	Vertical Durability Zone 1 Years
VV8000-101-R White PERM	7
V8000-650-R Blue PERM	7
V8000-750-R Green PERM	7
V8000-450-R Red PERM	7
V8000-250-R Yellow/Green PERM	3
V8000-350-R Orange PERM	3

### Typical Coefficient of Retro-Reflectivity:

Typical values for the coefficients of retroreflection ( $R_A$ )<sup>1</sup> for V-8000 are shown in Table A. The values are shown at 0° orientation<sup>2</sup>.

**Table A**

Observation Angle	0.2°			0.33°			0.5°			1.0°		
Entrance Angle	5°	30°	45°	5°	30°	45°	5°	30°	45°	5°	30°	45°
White	400	200	80	275	175	75	125	100	50	55	35	10
Blue	30	15	5	18	10	5	12	8	4	7	3	2
Green	120	70	40	75	45	30	40	25	15	18	10	4
Red	80	35	10	55	25	8	25	18	8	10	4	2
FL Yellow-Green	425	175	75	250	150	65	115	90	45	50	25	10
FL Orange	175	80	25	100	65	20	50	30	15	20	10	3

COMMENTS: (based on averages of production runs, NOT for specification purposes)

### Related Documents:

The following Avery Dennison literature will provide complete information to the user for proper application, storage, and other requirements and is available upon request from your Avery Dennison representative or from the Avery Dennison website ([www.graphics.averydennison.com](http://www.graphics.averydennison.com)).

Document Title	Reference Number
Substrate Cleaning and Preparation	<a href="#">Instructional Bulletin #1.10</a>
Storage, Maintenance, and Cleaning of PVC Films	<a href="#">Instructional Bulletin #1.20</a>
Warranty of Avery Dennison Films	<a href="#">Instructional Bulletin #1.30</a>
Cleaning and Maintenance of Vehicle Wraps	<a href="#">Instructional Bulletin #1.50</a>
Converting Tips for Sign Films	<a href="#">Instructional Bulletin #2.10</a>
Ink recommendations for Cast, Reflective, Calendered, and Specialty Products	<a href="#">Instructional Bulletin #3.00</a>
Application for Avery Dennison Films	<a href="#">Instructional Bulletin #4.00</a>
Removal Instructions	<a href="#">Instructional Bulletin #4.10</a>

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Thermal Transfer Printing, Converting, Operating, and Product Instructions	<a href="#">Instructional Bulletin #5.10</a>
Tips for Overlaminating, Premasking & Packaging Graphics	<a href="#">Instructional Bulletin #5.50</a>
Multi Purpose Inkjet OEM Qualification Matrix, Durability Reference, & Troubleshooting Guide	<a href="#">Instructional Bulletin #5.80</a>
Application and Care for V-8000	<a href="#">Instructional Bulletin #6.90</a>

### Application:

Avery Dennison V8000 Series is designed for application onto solid surfaces such as passenger vehicles, buses, trains, and railcars. To ensure color consistency when wrapping a vehicle, ensure the material used is from one production lot # of material.

**Important Note: Never use a wet application method to apply this film.**

- Some slight color shift may occur between rolls or lots, therefore, minimizing the mixing of rolls/lots on a specific vehicle is encouraged. If multiple rolls are needed be sure to use only rolls from the same production lot.
- Firm pressure should be used during the application to prevent the formation of post application bubbling.
- All vehicle substrates must be cleaned according to Avery Dennison recommended cleaning practices as outlined in IB # 1.10 "Substrate Cleaning and Preparation".
- For cleaning and care recommendations see IB 1.30.

Cleaning and maintenance products should conform to the following:

- Free from abrasive components
- Ideally pH balanced, thus not highly acidic or alkaline (pH level between 5 and 9)
- Free from alcohols (including isopropyl), acids, ammonia, chlorine, glycol ethers, harmful detergents, petroleum distillates, and phosphates

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